



**Access
Permission**

ID Number
80213648



Smart Face Recognition System
برنامج سمارت للتعرف على الوجوه



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Smart facial recognition system:



Facial recognition is a technology that is able to identify or verify a person from a digital photo or video. It works by comparing specific facial features of a particular image with the faces inside the database.

1. Through the program, it is possible to determine the percentage of matching of the face image taken from the surveillance cameras and the face image found in the identity investigation (ID card - passport - driver's license) if the match is 70% or more allowed to enter if it is less given an alarm sound
2. Visitors are registered in the program, with their faces saved only once, and in case the visitor enters
3. Once again, there is no need to record his data again as a face is identified
4. It returns its data from the database.
5. The identification of the visitor inside a large group of individuals
6. In the event that cameras capture an unwanted person entering the institution, an alarm will be sounded and alerted by security personnel

System uses:

Smart face recognition system can be used in more than one purpose as follows:

- Use it as an alternative to the face print machines to attend and leave in institutions as a tool to record the attendance and departure times of workers because it is characterized by who meets the needs of work. Speed in performance, accuracy of results and ability to integrate with smart attendance and leave systems as an integrated solution.
- Use it as a security solution in exhibitions, events and conferences to identify the faces of the invitees and verify their identity
- Use it as a security solution in institutions to identify the visitors who frequent the organization and present their security cases.

System features

- The ability to attach any number of images per person within the database
- The ability to attach any number of pictures to a number of people, unlike attendance and face-off machines, is limited to a certain number.
- High accuracy in getting to know people even from long distances
- Speed in image processing, comparing it to images already in the database, and displaying results
- The ability to identify people whose photos are saved in the database even after a long period of time.
- The possibility of being linked to attendance and leave cards
- The data is completely secured from any loss, it is kept in the system database and backup copies are taken from it automatically.



Integration with SMART HR system:

SMART Face Recognition System integrates with SMART Human Resources System, it serves the attendance and departure process in an integrated way to extract attendance and departure reports and link them to the salaries as follows: The date of the employee's attendance and departure as soon as he passes in front of the apparatus

Record any number of pictures of workers on the system

The employee passes in front of the device and the SMART facial recognition system records the time of entry and exit.

Smart Human Resources System handles the recorded attendance and departure movements through the SMART system to automatically identify faces without the need to download these movements with any manual intervention, as happens in the presence and departure machines for the face.

Smart HR system analyzes attendance and departure movements into detailed and aggregate reports of attendance and departure process at the person, department or branch level during a specific period. To the times of staff attendance and departure

Smart HR system implement the attendance and departure regulations of the institution in accordance with

The smart human resources system converts working times statements after

Integrated with the smart visitor data management system:

The SMART Face Recognition system integrates with the SMART visitor data management system, it serves the process of entering and exiting the visitors from completely in front of the device, arriving at the visits in a total and detailed way as follows:

Record their entry and exit dates as soon as they pass through to extract reports
Smart visitor data management system saves the captured images of visitors through surveillance cameras and saves them in the database.

SMART Visitor Management System saves the images of the scanned cards to visitors

The visitor passes in front of the device and the **SMART facial recognition system** records the time of entry and exit.

Smart face recognition system compares the visitor image with the images in the database.

Smart visitor data management system displays the visitor's security status.

Extracting detailed reports of visitors with pictures taken by them through surveillance cameras and pictures in their identification cards.

Extracting detailed and comprehensive reports of the entry and exit times of visitors and the times of visits to a specific portal or visits to a department or branch

A specific person or through a specific security employee for a specified period and during a specific time in the day.

Integration with the SMART conference and events system:

The system basically depends, the SMART facial recognition system is integrated with the SMART system for conferences and events, where to identify the faces of the invitees to the conference and determine the security status of them and whether they are allowed to enter or not, and this is all done in a few minutes, which facilitates the movement of the conference or event. As follows

Read the invitation card data:

The system identifies the cards of the invitees through the magnetic chip, as soon as they enter from the gates

The system displays the guest data saved in the SMART database written in the card on the screen

Identify the faces of the invitees.

Comparing the image of the guests who were captured through the surveillance cameras with their photos inside the SMART database of events and conferences

Determine whether the image is identical to the image in the database or does not match, and therefore determine whether he is allowed to enter or not

The photos of the invitees in the SMART database of events and conferences appear on the screen in case there is a picture of them

In the event that there are no pictures of those invited to the database, the system will alert you that there is no image, but the card data is correct

Knowing the security status of the guests

The smart system for fingerprint enables the identification of security cases for visitors, thus preventing the entry of those who are denied security or are prohibited.

Each security situation is basically a knowledge of the SMART system for events and conferences in advance and linked to the person's data

The person's security situation appears on the screen.

Programming Language:

The programming language used in the SMART system for conferences and events is **Delphi**, which was previously produced by Borland Corporation and is now being developed by a language company in the old forms of Embarcadero Technologies. This language is based on the Pascal object language, which is considered a development, and Delphi is a visual language and one of the high languages. It is also classified within the strong and easy languages together. ◌

Productivity is used by Delphi to develop programs and applications quickly, and therefore it is indicated that it has a characteristic of an integrated development environment DAR, and this characteristic means the development of programs quickly, i.e. Development Application Rapid, and this is achieved by using ready-made components and tools that are coordinated as required and are programmed

by writing several programs related to specific events of these components or elements This type of programming is referred to as event programming.

Programming with events is programming that depends on the occurrence of an event of an element in the application, meaning when a specific event occurs such as clicking a button or closing a window, a specific program that was previously written in the application is applied and it is understood that each object or element of one or more events can be linked to any of them with a certain procedure. In visual programming science, the object is called the object, and it is the object or component, and the elements are anything that was used in the program such as the frame or button, or the buttons use the text box or menu ... etc.

Each object has specific events associated with it, or in other words, events that happen to it at a specific time, for example in order to click on it, often visible as a click event, when clicking on a button, this visual programming language and this clicking process is referred to in programming science to apply the procedure Associated with this event which was previously programmed by the programmer. Also Delphi Writing inside the text box is an event and entry or exit from the text box is another event and hovering the mouse pointer over one of the elements is also an event that can be linked to a specific procedure (program) ... and so.

Delphi programming language allows the programmer to design the required application using several elements placed On one or more frameworks depending on the form the application needs and then programs or procedures are written procedures for each event of the events to be programmed in the sense that if a button is used in the application it is natural that a procedure is written for the event of clicking this button. Procedures for implementation.

Database:

The database used is Microsoft SQL Server, a relational database management system that supports a variety of transaction processing and analytics applications in corporate IT environments. Microsoft SQL Server is one of the most leading database technologies on the market. The database was designed using SQL, a standard programming language used by database administrators and other IT professionals to manage databases and inquire about the data they contain.

